

REMARKS

Claims 1, 2, 23 and 26 have been amended and claims 5, 8-13, 29, 60-62 and 99 have been cancelled without prejudice. Accordingly, claims 1-4, 6-7, 23-28, 30-32, 58-59, 66-68, 70-71, 98 and 101-102 are currently pending.

**I. Amendments:**

Claim 1 has been amended to recite that the silica-based material has a pH within the range of from 7-11 and is selected from the group consisting of silica-based sols, fumed silica, silica gels, precipitated silicas and acidified solutions of alkali metal silicates; and that the metal salt is based on an alkali metal or alkaline earth metal and has an anion selected from the group consisting of borate, nitrate, chloride, formate and acetate. Support for amended claim 1 can be found in original claims 5 and 29, respectively, and in the specification at page 3, lines 19-23 and at page 6, lines 6-9. No new matter has been added.

Claims 23 and 26 have been amended to be consistent with amended claim 1, with respect to the type of silica-based material and to both the type and pH of the silica-based material, respectively. Again, no new matter has been added.

**II. The Invention:**

The invention is directed to aqueous polysilicate microgels and a process for preparing same, which allows for the preparation of high-concentration polysilicate microgels with high stability. The polysilicate microgels are particularly useful as drainage/dewatering aids.

**III. Objections/Rejections:****Rejections:**

On pages 3-5 of the Office Action, claims 1-2, 4-9, 11-13, 23-24, 26-27, 29, 31-32, 58-61, 66-67 and 70-71 were rejected under 35 U.S.C. § 102(b) as allegedly

being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 2,727,008 to Iler ("Iler"). This rejection is respectfully traversed.

Iler discloses a process for preparing an aqueous silica sol which comprises mixing a silica sol of relatively low concentration with an alkali metal silicate solution of higher silica concentration (column 1, lines 67-70, example 1). The Office Action cites Example 1 of Iler in support of the purported rejections based on anticipation or, in the alternative, obviousness. In Example 1, Iler discloses that the sodium silicate solutions, which are passed through a column of ion-exchange resin in hydrogen form, in each instance, had a pH of less than 3.5. (See col. 5, lines 34 and 56-58). The acid solution was then alkalized by means of a concentrated, commercial sodium silicate solution, i.e. an aqueous solution having a very high pH of about 13 or higher.

Applicants are unaware of any disclosure, suggestion or teaching by Iler of using a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11) which is selected from the group consisting of silica-based sols, fumed silica, silica gels, precipitated silicas and acidified solutions of alkali metal silicates, as presently claimed. Applicants further submit that there is no reason for one of ordinary skill in the art, based on the teachings of Iler, to use a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11), as presently claimed.

Moreover, Applicants are unaware of any disclosure, suggestion or teaching by Iler of using a metal salt which is based on an alkali metal or alkaline earth metal and having an anion selected from the group consisting of borate, nitrate, chloride, formate and acetate, as presently claimed in amended claim 1, and respectfully submit that there is no reason, based on Iler, for one of ordinary skill in the art to use such metal salt.

Therefore, it respectfully requested that the rejections under 35 U.S.C. 102(b), or alternatively under 35 U.S.C. 103(a), in view of Iler be withdrawn.

On page 5 of the Office Action, claims 1, 4-6, 8-9, 11-12, 23-24, 26-27, 29-30, 32, 58-62, 66-68, 70-71, 98-99 and 101-102 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,116,418 to Kaliski ("Kaliski"). This rejection is respectfully traversed.

Kaliski discloses mixing very fine particle kaolin clay slurry with an aqueous sodium silicate and calcium chloride to form complex functional microgel.

Applicants are unaware of any disclosure, suggestion or teaching by Kaliski of using a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11) which is selected from the group consisting of silica-based sols, fumed silica, silica gels, precipitated silicas and acidified solutions of alkali metal silicates, as presently claimed. Applicants further submit that there is no reason for one of ordinary skill in the art, based on the teachings of Kaliski, to use a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11), as presently claimed.

Therefore, it is respectfully requested that the rejections under 35 U.S.C. 102(b), or alternatively under 35 U.S.C. 103(a), in view of Kaliski be withdrawn.

On pages 6-7 of the Office Action, claims 1, 2-13, 23-32, 58-63, 70-71, 98, 99 and 101-102 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 7,169,261 ("the '261 patent").

The Office Action contends that “although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims encompass and/or substantially overlap the ‘261 claims.” Applicants respectfully traverse.

The ‘261 patent issued from an later filed application (in comparison to the instant application) and is directed to aqueous sols having very specific characteristics including, *inter alia*, specific S-value and viscosity ranges, in combination with specific ranges of molar ratios of SiO<sub>2</sub> to M<sub>2</sub>O and/or specific surface area. Applicants respectfully submit that the present claims are patentably distinct from claims 1-20 of the ‘261 patent.

In that regard, Applicants submit that the processes, as presently claimed, do not constitute an obvious process for making the aqueous sols (as claimed in the ‘261 patent) and such processes can be used to make materially different products. Moreover, the aqueous sols, according to claims 1-20 of the ‘261 patent, can be made by a materially different process, i.e., a process that does not include the steps of mixing an alkali metal silicate with an aqueous phase of silica-based material, as presently claimed (in current claims 1, 23 and 26) or additionally mixing with a metal salt, as presently claimed (in current claims 1 and 26).

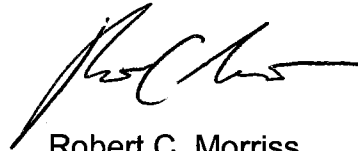
Moreover, the aqueous sols, having the specific properties according to claims 1-20 of the ‘261 patent, provide unexpectedly improved water drainage compared to various prior art sols. Accordingly, Applicants respectfully submit that the ‘261 patent is patentably distinct from the instant process claims and should be permitted in a separate patent from a patent that issues with the instant claims.

Therefore, Applicants respectfully request that the rejection based on the ‘261 patent be withdrawn.

**IV. Conclusion:**

Applicants respectfully submit that the application as amended, including claims 1-4, 6-7, 23-28, 30-32, 58-59, 66-68, 70-71, 98 and 101-102, is now in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required, the Examiner is invited to contact applicants' undersigned attorney at the telephone number provided below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert C. Morriss', written in a cursive style.

Robert C. Morriss  
Attorney for Applicants  
Registration No.: 42,910

Akzo Nobel Inc.  
Intellectual Property Dept.  
120 White Plains Road  
Suite 300  
Tarrytown, NY 10591-5522  
(914) 333-7450